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ELY
RURAL DISTRICT COUNCIL.

REPORT

For the Year 1904,

BY

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ELY RURAL DISTRICT COUNCIL.

REPORT.

I BEG leave to communicate to the Ely Rural District Council my Annual Report for the year 1904, on "the conditions affecting the health in the District and the means for improving those conditions," and in addressing myself to this task I have to point out to the Council that by the "Memorandum as to Annual Reports of Medical Officers of Health," issued by the Local Government Board, October, 1904, I am directed to discuss prescribed subjects in definite order and give information which may seem superfluous to the Council. The following extract from the Memorandum will make clear the intentions of the Local Government Board.

"As subjects concerning which the Board desire to obtain, through Annual Reports of the Medical Officer of Health, not only definite general information, but record also of particular changes of condition that may have occurred incidentally or by action of the Local Authority, the following deserve to be especially borne in mind :—

"Physical features and general character of the District.

"House accommodation, especially for the working classes : its adequacy and fitness for habitation. Sufficiency of open space about houses, and cleanliness of surroundings. Supervision over erection of new houses.

"Sewerage and drainage: its sufficiency in all parts of the District. Condition of sewers and house drains. Method or methods of disposal of sewage. Localities where improvements are needed.

"Excrement disposal : system in vogue ; defects, if any.

"Removal and disposal of house refuse—whether by public scavenger or occupiers : frequency and method.

“Water supply of the District or its several parts: its source (from public service or otherwise), nature (river water, well water, upland water, etc.), sufficiency, wholesomeness, and freedom (by special treatment or otherwise) from risks of pollution.

“Places over which the Council have supervision, *e.g.*, lodging houses, slaughterhouses, bakehouses, dairies, cowsheds, and milkshops, factories and workshops, and offensive trades.

“Nuisances: proceedings for their abatement—any remaining unabated.

“Methods of dealing with infectious diseases: notification: isolation hospital accommodation and its sufficiency; disinfection.

With regard to such points it should be remembered that these reports are for the information of the Board and of the County Council as well as of the Council of the District, and that a statement of the local circumstances and a history of local sanitary questions, which may seem superfluous for the latter, may often be needed by the former bodies.”

VITAL STATISTICS.

Vital Statistics.
Population.

Inasmuch as a decrease in the population is governed by emigration rather than by relation of birth-rate and death-rate, as is the natural increase, there is no certain factor by which the population can be estimated, and as there is no reason to suppose there is sufficient material alteration to vitiate the substantial accuracy of statistical calculations based upon the results of the enumeration of the population at the Census of 1901, I use those figures as the basis of calculation of Vital Statistics, which are as follows:—

Deaths and
Death-rate.

The total number of deaths which have been registered in the district is 178, but this number must be corrected by the addition of deaths of persons belonging to the district which have occurred in public institutions outside its boundary, viz: in the Workhouse (situate within the urban district of the City of Ely), 19; in the County Asylum, at Fulbourn, 6; and in Addenbrooke's Hospital, Cambridge, 3; making a corrected total of 206 (112 males and 94 females), which on the Census return of 1901 gives an annual death-

rate of 16·6 per thousand living ; a rate identical with that for the previous year. The mean rate for the previous ten years is 15·7. The death-rate in England and Wales for the year 1904 is given as 16·2 in the summary of the Registrar-General, contained in the appendix to his Report for the last quarter of the year.

The deaths due to epidemic diseases are :—from Diphtheria, 1 ; Epidemic Death-rate, Typhoid Fever, 1 ; Diarrhœa, 3 ; and Whooping Cough, 9 ; total, 14 ; equal to an annual death-rate from these diseases of 1·12 per thousand living. The mean rate for the previous ten years is 0·89.

Influenza has caused no deaths.

Influenza.

The total number of births registered is 320 (170 males and 150 females), equal to a birth-rate of 25·8 per thousand living per annum. The mean rate for the previous ten years is 26·0. The birth-rate for England and Wales for the year 1904 is given as 27·9, which is 0·5 per thousand below the rate in 1903, and lower than the rate in any other year on record.

Births and Birth-rate.

The ratio of deaths under one year of age to 1,000 registered births is 100 ; the rate for the previous year was 93. The mean rate for the previous ten years is 104.

Infantile Mortality.

After assigning to each sub-district its share of the deaths in the above three public institutions as per subjoined table, the vital statistics are respectively :—Haddenham, general death-rate 16·1, epidemic death-rate 0·00, birth-rate 20·3 ; Sutton, general death-rate 20·5, epidemic death-rate 2·97, birth-rate 25·8 ; Littleport, general death-rate 15·8, epidemic death-rate 1·18, birth-rate 29·2 ; Downham, general death-rate 12·7, epidemic death-rate 0·0, birth-rate 27·7.

Sub-District.	Registered Deaths.	Addenbrooke's Hospital.	Work-house.	County Asylum.	Total.	Death Rate.
Haddenham	48	2	2	2	54	16·1
Sutton ...	53	—	8	1	62	20·5
Littleport...	56	1	8	2	67	15·8
Downham	21	—	1	1	23	12·7
Total	178	3	19	6	206	16·6

Comparing the birth-rate of the several sub-districts with the average rate for the previous ten years it would appear that the birth-rate of the Sutton, Littleport and Downham sub-districts respectively are 0·7, 1·4 and 0·5 per thousand above the average, and the rate for the Haddenham sub-district is 4·4 below it.

Comparing the death rates in the same way it would appear that the rates of Haddenham and Sutton sub-districts respectively are 0·8, and 3·8 above the average, and the rates for the Littleport and Downham sub-districts respectively are 0·4 and 3·1 below it.

Diarrhoea. The number of deaths from Diarrhoea among persons belonging to the district is 3, and the death-rate per thousand living from this disease is 0·24.

Phthisis and Cancer. The number of deaths from Phthisis and Cancer respectively among persons belonging to this district is 20 and 18, and the death-rate per thousand living from these diseases is 1·61 and 1·45.

The deaths and death-rate from Diarrhoea, Phthisis and Cancer among persons belonging to this district, during the previous ten years, are set out in the following table:—

	Diarrhoea.				Phthisis.				Cancer.			
	Deaths.	Death-Rate.	Deaths.	Death-Rate.	Deaths.	Death-Rate.	Deaths.	Death-Rate.	Deaths.	Death-Rate.	Deaths.	Death-Rate.
1894	...	2	...	0·15	...	18	...	1·40	...	8	...	0·62
1895	...	6	...	0·47	...	21	...	1·64	...	13	...	1·02
1896	...	1	...	0·07	...	16	...	1·25	...	13	...	1·02
1897	...	2	...	0·15	...	30	...	2·37	...	13	...	1·02
1898	...	10	...	0·79	...	19	...	1·50	...	17	...	1·34
1899	...	6	...	0·47	...	15	...	1·19	...	8	...	0·63
1900	...	0	...	0·00	...	19	...	1·52	...	7	...	0·56
1901	...	2	...	0·16	...	15	...	1·20	...	20	...	1·61
1902	...	0	...	0·00	...	12	...	0·96	...	17	...	1·36
1903	...	1	...	0·08	...	14	...	1·12	...	18	...	1·45
Average	—	—	—	—	—	—	—	—	—	—	—	—
for years	3·0	0·23	17·9	1·42	13·4	1·06						
1894-1903	—	—	—	—	—	—	—	—	—	—	—	—

DISEASE INCIDENCE.

Disease Incidence. Disease of an infectious character has been more prevalent during the year than in any of the previous ten years, with the exception

of the year 1898. The total number of cases notified during the year is 120 (two fatal), equal to a case rate per thousand of the population of 9.67.

The number of cases notified in each of the ten years, 1894—1903, are as follows:—63 in 1894, 31 in 1895, 100 in 1896, 106 in 1897, 166 in 1898, 108 in 1899, 90 in 1900, 107 in 1901, 62 in 1902, and 45 in 1903, total 878. The mean case rate is 6.97.

No case of Small Pox has been notified in the district during ^{Small Pox.} the year, and only one case has been notified in the district during the previous ten years.

Forty-two cases of Scarlet Fever (none fatal) have been notified ^{Scarlet Fever.} during the year, equal to a case rate per thousand of the population of 3.38.

No cases of Scarlet Fever have been notified in the Haddenham sub-district during the year.

In the Sutton sub-district only one case has been notified, and the patient probably contracted the disease when attending at Addenbrooke's Hospital, Cambridge, for a small operation to the throat, from a Chatteris child whom he met there and who was a convalescent from Scarlet Fever.

In the Littleport sub-district, thirty-eight cases in twenty households have been notified. Between April 8 and May 30, twenty-three cases in ten households in the outlying parts of the district, and one case in the town proper, were notified.

Enquiry elicited that the disease was introduced into the first household assailed in Black Horse Drove, from Southery, whence it extended to St. John's, Little Ouse and Redmere, and by means of social intercourse it was introduced into Shepherd's Drove. The solitary case in the centre of the town was directly connected with the above-mentioned cases, as the disease was clearly contracted at St. John's, Little Ouse, where the patient was employed. As a precautionary measure the School at St. John's, Little Ouse, was

closed for several weeks and disinfected. On July 10th one case at Pymore, and on August 12th one case at Wood Fen, were notified; these cases may have been connected with those previously mentioned, but there was no direct evidence to support this view. On August 23rd five cases in one household in the town were notified. When the Medical Officer of Health visited the house to inquire into the circumstances, the cases were shown to him by the mother, who questioned the real nature of the disease, and he was certainly unable to discover any evidence of the disease. On September 26th two cases in one household at Hale Fen were notified, but no connection with any known case could be traced. Between December 7 and 31 three cases in three households in the outlying parts of the district, and two cases in two households in the town were notified.

In the Downham sub-district, three cases in one household at Oxloode were notified between June 9—15; the source of infection of the first case could not be traced, and the others were in direct sequence.

The number of cases of Scarlet Fever notified, and the number of deaths registered during each of the ten years 1894—1903, are set out in the following table:—

	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	Total.
Cases ...	16	4	78	74	121	53	65	58	40	15	524
Deaths ...	—	—	2	—	—	2	1	1	1	—	7

Mean case rate 4·15. Mean mortality rate 0·05.

Ten years deaths per cent. of cases 1·33.

Diphtheria. Twenty-three cases of Diphtheria have been notified during the year, equal to a case rate per thousand of the population of 1·85.

In the Haddenham sub-district two cases in two households have been notified. One case at Stretham, notified on April 11, was that of a young woman who came home ill from her place of business at Sutton, three days antecedent to the appearance of acute symptoms. A visit to her place of business at Sutton revealed most serious sanitary defects, and as a rubbing from the throat did not give evidence of the presence of the diphtheria bacillus, it is possible therefore that the case

may have been one of "drain throat." One case at Haddenham, notified on November 9, probably had connection with an antecedent case at Earith, in the St. Ives rural district.

In the Sutton sub-district, sixteen cases in twelve households, all of which occurred in the village of Sutton, were notified between November 11 and December 10. The disease was introduced from the neighbourhood of Wisbech, where it was ascertained the disease was prevailing, by the migration of a family from that district, one member of which was found to be suffering from the disease ten days after arrival. School assemblage and social intercourse were the operating causes of the further spread of the disease. The Medical Officer of Health advised that rubbings of the throat should be taken for bacterial examination, and that prophylactic injections of Diphtheria Antitoxin Serum should be administered, and these measures were carried into effect by the medical man in attendance on the cases. The bacterial examinations gave evidence of the presence of the diphtheria bacillus, and there was therefore no doubt as to the real nature of the disease. As a further precautionary measure, the schools were closed and disinfected. One case at Mepal notified on December 1, could not be satisfactorily accounted for.

In the Littleport sub-district, four cases in three households have been notified. One sporadic case in the Town was notified on January 18. The Medical Officer of Health recommended the injection of Diphtheria Anti-toxin Serum, and that a rubbing of the throat be taken for bacterial examination; the former was adopted, followed by a rapid recovery, but as no rubbing was taken confirmatory bacterial evidence was not forthcoming, and moreover there was no circumstance to account satisfactorily for the presence of the disease. At Camel Drove, two cases (one fatal) in one household, and one case in another household were notified on March 27 and June 19 respectively. The introduction of the disease into the first household assailed was probably due to a visit from a sister who had had an attack of Diphtheria some time previously, and was supposed to have quite recovered. In regard to the second household assailed, the disease was possibly introduced from the first household, as they were neighbours, but direct proof of this suggestion could not be established.

In the Downham sub-district, no cases of the disease have been notified.

The number of cases of Diphtheria notified, and the number of deaths registered during each of the ten years 1894—1903, are set out in the following table :—

	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	Total.
Cases ...	35	9	5	3	25	2	7	35	3	7	131
Deaths ...	6	1	—	—	4	1	1	2	—	—	15

Mean case rate 1·04. Mean mortality rate 0·11.

Ten years deaths per cent. of cases 11·4.

Typhoid Fever. Thirty-eight cases (one fatal) of Typhoid Fever in twenty-eight households have been notified during the year, all of which occurred in the Littleport sub-district, and thirty-six of these were made the subject of a special report, which is re-produced in the appendix. Of the two cases not included in the special report, one occurred at Mare Fen, and appeared to have no connection with the case included in that report. The other occurred at 100 foot Bank, after the issue of the report, and was no doubt connected with the other cases which occurred along the Bank of the Ouse. The case rate per thousand of the population is 3·06.

The number of cases of Typhoid Fever notified, and the number of deaths registered during each of the ten years, 1894—1903, are set out in the following tables :—

	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	Total.
Cases ...	4	11	7	18	5	37	4	2	1	13	102
Deaths ...	1	2	—	2	2	7	1	1	—	1	17

Mean case rate 0·81. Mean mortality rate 0·13.

Ten years deaths per cent. of cases 16·6.

Puerperal Fever. No case of Puerperal Fever has been notified during the year, and during the previous ten years seven cases have been notified, viz. :—1 (fatal) in 1894, 1 (fatal) in 1896, 1 (fatal) in 1898, 2 in 1900, and 2 (1 fatal) in 1902.

Erysipelas. Seventeen cases (none fatal) of Erysipelas have been notified during the year, viz. :—two in the Sutton sub-district, thirteen in

the Littleport sub-district, and two in the Downham sub-district. The case rate per thousand of the population is 1·37.

The number of cases of Erysipelas notified, and the deaths registered during each of the ten years 1894—1903, are set out in the following table:—

	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	Total.
Cases ...	7	6	9	11	15	16	12	12	16	8	112
Deaths ...	—	—	—	—	—	—	—	—	—	—	Nil.

There have been no cases of Cholera, Typhus Fever, Relapsing Other Notifiable Diseases. Fever, Continued Fever, or Plague notified during the year. During the previous ten years only one case of English Cholera and one case of Typhus Fever have been notified.

Of the other epidemic but non-notifiable diseases, Whooping Whooping Cough. Cough was prevalent in Littleport during January, but caused no deaths, and necessitated the closure of the Infant Schools for two weeks; the disease was also present at Sutton in February, and caused one death; at Witcham and Coveney respectively in March, and caused one death at the former place, and seven at the latter. Chicken Pox prevailed in Littleport during June, and necessitated Chicken Pox. the closure of the Infants' School for two weeks.

PHYSICAL FEATURES AND GENERAL CHARACTER OF THE DISTRICT.

The Ely Rural District includes a number of the Isles of Ely Physical Features. or low hills of Kimeridge clay, situate mainly on the area indicated in Sketchly's Memoir of the Geological Survey as "Peat Land," while Littleport is included in the "Silt Land," area. In the southern part of the district, including Haddenham and Stretham, there are outliers of Green Sand, also one near Witchford; in other parts of the district there are shallow patches of drift gravel and sand, especially at Sutton, where unfortunately it has been largely removed. The District forms a triangular area, bounded on the East by the great watercourses of the Ouse; on the West by the New Bedford (River Level), and on the South by the depleted Old West river.

*HOUSE ACCOMMODATION.***House
Accommodation**

House accommodation in the District is quite sufficient for the needs of the rural population. There was a few years ago an insufficiency of house accommodation and consequent tendency to overcrowding in the village of Littleport, on account of the establishment therein of a Shirt Factory employing a number of female hands, but building operations have been in active progress, and any deficiency of this character is being rapidly redressed. During the past few years houses unfit for human habitation have been in due course reported, and either repaired or vacated, and in some instances have been pulled down, so that there is less defect of this character than formerly.

The above remarks apply mainly to the villages, but in the Fen proper, especially along the banks of the great watercourses, the condition of the habitations of the working classes is not nearly so satisfactory; there are in some parts a few squatters occupying their own houses, which in the nature of things are not so satisfactory as the houses owned by persons of some pecuniary means; these defects are, however, to a large extent balanced by the open space about the houses, and, indeed, there are very few instances in the villages proper of serious density of population. Where there is ample space the cleanliness of the surroundings varies very much according to the character of the occupants of the houses. Any serious conditions of this kind are kept under control by the activity of the Inspector of Nuisances.

It has become the practice in many parts of the district to cover the thatched houses with corrugated iron, whereby are combined the advantages of the non-conductivity of heat by the thatch, cleanliness of the external surfaces of the roofs, and suitability for the collection of rain water.

Two houses at Wilburton which were reported to the District Council as being dilapidated have been pulled down by the owner.

Two cases of overcrowding at Littleport have been reported; one has been abated by the removal of the family to a larger dwelling, and the other by the removal of some members of the family. One

case at Downham has been abated by the removal of the family to a larger dwelling.

Houses have been erected during the year at the following villages :—Downham, 2, Haddenham, 5, Littleport, 8, Mepal, 1, Sutton, 5, and Wilburton, 3.

Although there is no official supervision over the erection of new houses, in every instance a certificate as required by Section 6 of the Public Health (Water) Act, 1878, is insisted upon before occupancy.

It is worth the consideration of the Council whether they should take advantage of the provisions of the Housing of the Working Classes Acts, 1900, and 1903, which amend the Housing of the Working Classes Act, 1890, for the better housing of the rural populations.

SEWERAGE AND DRAINAGE.

With regard to the sufficiency of Sewerage and Drainage, the only villages in the district where *systems* of public sewers are provided, are Haddenham, Littleport, Downham and Stretham. It has not been found possible to subject the sewage to any special treatment, except on a small scale in a few instances at Littleport, nor does that seem particularly needful, for the sewage can be discharged into the Fen ditches, where the water is not used for drinking purposes, and the sewage is rapidly purified by the ordinary influence of nature nearly as well as if passed on to specially prepared sewage farms. There are unfortunately some instances where the method of sewage disposal causes a nuisance by polluting the water courses.

At Wilburton the main sewer has been flushed out, and caned, and all the road gulleys have been deepened and mason trapped; and at Carpond Lane the sewer has been diverted, and 2 chains of 9 inch glazed earthenware socketted pipes with cement joints have been laid.

At New Road, Mepal, a new sewer, 5 chains in length, of 6 inch glazed earthenware socketted pipes with cement joints has been laid, and one new gully has been provided.

At Haddenham, the sewer at Bury Lane has been further extended for about 1 chain by 9 inch glazed earthenware socketted pipes with cement joints, and at the end of Straight Drove the sewer has been carried across the roadway by means of 9 inch glazed earthenware socketted pipes with cement joints, and made to discharge into the main sewer.

At Downham, Haddenham, Stretham and Sutton, the ditches at the end of the sewers has been cleaned out, and the "Zumps" at Stretham have also been cleaned.

The street gulleys in every parish have been cleaned and disinfected when necessary.

EXCREMENT DISPOSAL.

Excrement
Disposal.

In those villages, or parts of villages where there is no sewer accommodation there are pit privies, but these are gradually being substituted by earth closets.

During the year seventy-one earth closets have been substituted for pit privies, and the pits have been filled up.

The excrement from both pit privies and earth closets is disposed of on garden ground.

REMOVAL AND DISPOSAL OF HOUSE REFUSE.

Removal of
Refuse.

The house refuse is disposed of by the occupiers temporarily in ash-pits, which in a few instances are too near the dwellings, and subsequently on garden ground.

It might be worth while for the Council to consider whether systematic scavenging might not be instituted in several of the larger villages in the District.

WATER SUPPLY.

Water Supply.

The method of water supply varies considerably in different parts of the District, as follows:—

At Mepal, Wardy Hill, and parts of Littleport and Downham, the supply is obtained from the rivers, ditches and ponds.

At Haddenham, Witchford, Wentworth, Wilburton, Witcham, Sutton, Stretham, and parts of Littleport and Downham, the supply is obtained from wells.

In the Fen area, which is situated mainly on Fen silt and Kimeridge clay, rain water is the only supply, and this is stored in tanks of galvanized iron of a capacity of two hundred gallons and upwards, according to the requirements of the householders.

In the instances where the supply is obtained from the river it is made to pass through a filter of sand and polarite before being used. The same remarks apply to the pond supply at Wardy Hill.

The well water varies very much in character; in some places, such as the centre of Littleport, it is not of high-class quality.

At Witchford the supply from the shallow wells is not satisfactory, and an excellent supply could be obtained from the Greensand about a mile from the village on the Ely Road.

The villages situated on the Greensand are Haddenham, Wilburton, and part of Stretham. All the other villages in the District, with the exception of part of the Fen, are situate on low hills of Kimeridge clay.

The shallow wells derive their supply of water from the gravel resting on the Kimeridge clay.

Aldreth has the advantage of a natural spring, probably of Greensand origin.

In regard to the question of an improved supply of water for the village of Littleport, in consequence of my remarks on the subject in the special report on the outbreak of Typhoid Fever, the Parish Council to whom the District Council referred my report, passed the following resolution: "That the District Council be asked to take steps to prevent the pollution by Ely of the river which forms the natural supply of the village of Littleport and neighbourhood."

At Downham, the ditch that supplies water to the filter at Pymore has been cleared.

At Sandhill, Littleport, the filter has been cleared out and re-charged with polarite.

Parish pumps have been repaired at Coveney, 2, Downham, 7, Haddenham, 5, Littleport, 8, Mepal, 1, Stretham, 2, Witchford, 1, Witcham, 2.

Parish ponds have been cleared out at Haddenham, 1, Stretham, 1, Witchford, 1.

PLACES OVER WHICH THE COUNCIL HAVE SUPERVISION.

Inspections. The slaughterhouses in the district have been regularly inspected, and any defects which have been discovered have, on notice from the Inspector of Nuisances, been remedied.

No regulations have been adopted by the Council for the control of Dairies, Cowsheds and Milkshops.

FACTORIES AND WORKSHOPS.

Factories and Workshops. The Factory and Workshops Act, 1901, imposes several new and important powers and duties on the District Council, and the Inspector of Nuisances has been specially appointed to carry the provisions of the Statute into effect.

FACTORIES.—There is at present recorded only one factory in the district where more than forty persons are employed, and this has been examined with regard to the provisions of escape in case of fire.

WORKSHOPS.—Sixty-nine inspections of workshops have been made during the year, and in no instance have any contraventions of the Act been discovered. No special notification of any defects or neglect on the part of the occupiers in carrying out the provisions of the Act have been received from H.M. Inspector during the year.

BAKEHOUSES.—In this district there are twenty-eight bake-houses on the register and these have been periodically inspected during the

year, and the special regulations contained in the Act have been enforced. There is no underground bakehouse in the District.

HOME WORK.—During the year a list containing the addresses of thirty-six outworkers residing in the district has been received, and the premises occupied by them have been inspected, but in no instance has the dwelling been found to be so unhealthy as to necessitate the District Council prohibiting home work being done therein.

REGISTER OF WORKSHOPS.—The number of workshops at present recorded are 124, including 28 bakers, 4 brickmakers, 26 dressmakers, 16 carpenters, 13 shoemakers, 16 smiths, 6 cheese factors, 5 tailors, 4 sadlers, 2 milliners, 1 basket maker, 2 wheelwrights, and 1 printer.

NUISANCES.

Nuisances of various kinds as indicated in the Inspector's Table ^{Nuisances.} in the appendix to this report have been dealt with.

METHODS OF DEALING WITH INFECTIOUS DISEASE.

The methods of dealing with Infectious Diseases are by notification, followed by enquiry by the Medical Officer of Health, Inspector of Nuisances, or by both, according to the importance of the cases. ^{Isolation Hospital, etc.}

There is yet no isolation hospital in the District for other diseases than Small Pox, and as it is now unlikely that this building will now be required for cases of this disease, it might with advantage be utilised for cases of other infectious diseases. In the absence of such an institution, advice is given to the householders as to the best means of isolation of cases in their own homes. The Schools Authorities are informed of the households in which infectious diseases have appeared, with a request to exclude all the members until they are free from infection. When epidemic influence shows a tendency to spread, the Schools Authorities are asked to close the schools; and in this regard in consequence of

the prevalence of Scarlet Fever, Whooping Cough, and Chicken Pox at Littleport and Diphtheria at Sutton, the schools have been closed for several weeks.

In threatened outbreaks of Diphtheria prophylactic doses of Anti-toxin are recommended for the protection of all persons known to have been exposed to the chances of infection, and bacterial examination of rubbings from the throats and nasal passages of all known "Contacts" is recommended for the discovery of any unsuspected case of the disease.

At the conclusion of a case, the infected rooms and the articles contained therein are disinfected by aerial disinfectants, but there is no machinery in the district for disinfection by heat or steam.

ADOPTIVE ACTS.

Adoptive Acts. The Infectious Diseases (Prevention) Act, 1890, and the Public Health Acts (Amendment) Act, 1890, have not yet been adopted.

All the above remarks, together with the tables of Statistics required by the Local Government Board, and the Inspector's record of work, I respectfully submit to the Rural District Council.

BUSHELL ANNINGSO^N.

TABLE I.

For the Whole Rural District of Ely.

Table shewing Vital Statistics for the year 1904 and the antecedent ten years.

YEAR.	Population—estimated to the middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.				TOTAL DEATHS IN PUBLIC INSTITUTIONS IN THE DISTRICT.	Deaths of Non-residents registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	NETT DEATHS AT ALL AGES belonging to the District.	
		Number.	Rate.*	UNDER ONE YEAR OF AGE.		AT ALL AGES.					Number.	Rate.*
				Number.	Rate per 1,000 Births registered.	Number.	Rate.*					
1	2	3	4	5	6	7	8	9	10	11	12	13
1894.....	12778	327	25.5	33	100	171	13.3	...	...	19	190	14.8
1895.....	12740	363	28.4	38	104	196	15.3	...	...	24	220	17.2
1896.....	12703	361	28.4	33	91	173	13.6	...	...	21	194	15.2
1897.....	12656	362	28.6	41	113	202	15.9	...	...	18	220	17.3
1898.....	12604	310	24.6	33	106	184	14.6	...	...	22	206	16.3
1899.....	12545	313	24.9	34	108	156	12.4	...	...	17	173	13.7
1900.....	12479	324	25.9	31	95	178	14.2	...	...	29	207	16.5
1901.....	12405	313	25.2	40	127	177	14.2	...	...	20	197	15.8
1902.....	12405	287	23.1	27	94	152	12.2	...	...	21	173	13.9
1903.....	12405	311	25.0	29	93	186	14.9	...	...	20	206	16.6
Averages for years 1894—1903	12572	327	26.0	34	104	177	14.0	...	...	21	198	15.7
1904.....	12405	320	25.8	32	100	178	14.3	...	...	28	206	16.6

* Rates calculated per 1,000 of estimated population.

NOTE.—The deaths included in Column 7 of this table are the whole of those registered during the year as having actually occurred within the district or division. The deaths included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity and dying in Public Institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in Public Institutions elsewhere.

The Public Institutions taken into account for the purposes of this and the following tables are the Union Workhouse, Ely; Addenbrooke's Hospital, Cambridge; and Fulbourn Asylum.

Area of District in acres (exclusive of area covered by water).....	64,516	At Census of 1901.
Total population at all ages	12,405	
Number of inhabited houses	2,913	
Average number of persons per house	4.2	

TABLE II.

Ely Rural District.

Table shewing Estimated Population, Births, Corrected Deaths at all ages and Infant Mortality for the year 1904 and the antecedent ten years.

NAMES OF LOCALITIES.	1 Whole District.				2 Haddenham.				3 Sutton.				4 Littleport.				5 Downham.			
	Population estimated to the middle of the year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to the middle of the year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to the middle of the year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to the middle of the year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to the middle of the year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.
YEAR	(a)	(b)	(c)	(d)	(a)	(b)	(c)	(d)	(a)	(b)	(c)	(d)	(a)	(b)	(c)	(d)	(a)	(b)	(c)	(d)
1894.....	12778	327	190	33	3442	91	41	8	3226	80	51	8	4239	107	73	12	1871	49	25	5
1895.....	12740	363	220	39	3433	104	61	13	3204	75	43	5	4239	129	81	13	1864	55	35	8
1896.....	12703	361	194	34	3426	85	59	6	3182	76	46	5	4239	145	71	15	1856	55	18	8
1897.....	12656	362	220	41	3414	98	64	9	3156	82	57	9	4239	121	67	13	1847	61	32	10
1898.....	12604	310	206	33	3401	90	53	8	3127	63	55	5	4239	118	72	17	1837	39	26	3
1899.....	12545	313	173	34	3385	75	39	6	3095	79	42	8	4239	112	62	12	1826	47	30	8
1900.....	12479	324	207	31	3367	86	56	13	3059	75	53	4	4239	113	59	9	1814	50	39	5
1901.....	12405	313	197	40	3347	76	49	9	3021	66	44	5	4236	114	73	19	1801	57	31	7
1902.....	12405	287	173	27	3347	62	56	7	3021	77	42	6	4236	103	59	11	1801	45	16	3
1903.....	12405	311	206	29	3347	72	44	4	3021	76	51	6	4236	115	74	13	1801	48	37	6
Averages of years 1894—1903	12572	327	198	34	3391	84	52	8	3111	75	48	6	4238	118	69	14	1832	50	29	6
1904.....	12405	320	206	32	3347	68	54	8	3021	78	62	7	4236	124	67	15	1801	50	23	2

NOTES.—(a) The separate localities adopted for this table are areas of which the population is obtainable from the census returns. Block 1 is used for the whole district; and blocks 2, 3, 4 and 5 for the several localities.

(b) Deaths of residents occurring in Public Institutions beyond the district are included in sub-columns c of this table, and those of non-residents registered in Public Institutions in the district excluded.

(c) Deaths of residents occurring in Public Institutions, whether within or without the district, are allotted to the respective localities, according to addresses of the deceased.

TABLE III.

Ely Rural District.

Cases of Infectious Disease notified during the Year 1904.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT.						TOTAL CASES NOTIFIED IN EACH LOCALITY.			
	At all Ages.	At Ages—Years.					1 Haddenham	2 Sutton.	3 Littleport.	4 Downham.
		Under l.	1 to 5.	5 to 15.	15 to 25.	25 to 65.				
Smallpox ... ..	...	...	...	...	...	...	...	...	...	...
Cholera ... ..	...	...	...	...	...	...	...	...	...	...
Diphtheria	23	...	4	9	7	3	2	17	4	...
Membranous Croup ...	...	...	...	...	...	...	...	...	...	...
Erysipelas	17	...	1	2	2	12	...	2	13	2
Scarlet Fever	42	...	7	32	3	...	...	1	38	3
Typhus Fever ... ..	...	...	...	...	...	...	...	...	...	...
Enteric Fever	38	...	3	14	9	12	...	...	38	...
Relapsing Fever ... ..	...	...	...	...	...	...	...	...	...	...
Continued Fever ... ..	...	...	...	...	...	...	...	...	...	...
Puerperal Fever ... ..	...	...	...	...	...	...	...	...	...	...
Plague ... ..	...	...	...	...	...	...	...	...	...	...
Totals...	120	...	15	57	21	27	2	20	93	5

NOTES.—The localities adopted for this table are the same as those in Tables II. and IV.
There is no Isolation Hospital for any infectious diseases other than Small Pox.

TABLE IV.

Ely Rural District.

Causes of Death at several age periods during the Year 1904.

CAUSES OF DEATH.	Deaths in or belonging to whole District at subjoined Ages.							Deaths in or belonging to Localities (at all Ages).				TOTAL DEATHS IN PUBLIC INSTITUTIONS IN THE DISTRICT.
	All ages.	Under 1.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Haddenham.	Sutton.	Littleport.	Downham.	
1	2	3	4	5	6	7	8	9	10	11	12	13
Smallpox ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Measles ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Whooping Cough	9	2	6	1	...	...	...	...	9	...	...	...
Diphtheria and Membranous Croup	1	...	1	...	...	...	...	...	...	1	...	...
Croup... ..	...	...	...	...	...	...	...	...	...	...	...	...
Fever {	...	...	...	...	...	...	...	...	...	...	...	...
Typhus ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Enteric	1	...	...	...	...	1	...	...	...	1	...	...
Other continued	...	...	...	...	...	...	...	...	...	...	...	...
Epidemic Influenza ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Cholera ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Plague ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhœa. (See notes on next page)	3	2	1	...	...	...	...	...	...	3	...	...
Enteritis. (See notes on next page)	2	2	...	...	...	...	...	2	...	...	...	...
Puerperal Fever ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Other septic diseases	2	...	1	...	...	...	1	1	1	...	...	...
Phthisis	20	1	...	1	7	11	...	5	6	5	4	...
Other tubercular diseases	6	2	2	1	...	1	...	1	2	1	2	...
Cancer, malignant disease	18	...	...	1	...	10	7	6	5	5	2	...
Bronchitis	5	2	1	...	...	...	2	1	1	3	...	...
Pneumonia	15	6	2	1	...	3	3	6	5	4	...	...
Pleurisy ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Other diseases of Respiratory Organs ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Alcoholism. Cirrhosis of liver	2	...	...	...	...	...	2	...	1	1	...	...
Venereal diseases ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Premature birth	5	5	...	...	...	...	...	1	1	1	2	...
Diseases and accidents of Parturition	2	2	...	...	...	...	...	...	...	2	...	...
Heart diseases	23	...	...	...	2	5	16	8	8	7	...	...
Accidents	7	...	3	...	1	2	1	1	...	3	3	...
Suicides	2	...	...	...	...	...	2	...	...	2	...	...
Not certified	4	...	...	...	...	2	2	1	1	1	1	...
All other causes	79	9	2	1	1	9	57	21	22	27	9	...
All causes	206	32	20	6	11	44	93	54	62	67	23	...

See Notes on next page.

NOTES.

- (a) In this Table all deaths of "Residents" occurring in public institutions, whether within or without the district, are included with the other deaths in the columns for the several age groups (columns 2-8). They are also, in columns 9-12, included among the deaths in their respective "Localities" according to the previous addresses of the deceased as given by the Registrars. Deaths of "Non-Residents" occurring in public institutions in the district are in like manner excluded from columns 2-8 and 9-12 of this Table.
- (b) See notes on Table I. as to the meaning of "Residents" and "Non-Residents," and as to the "Public Institutions" taken into account for the purposes of these Tables.
- (c) Under the heading of "Diarrhœa" are included deaths certified as from Diarrhœa, alone or in combination with some other cause of ill-defined nature; and also deaths certified as from
- Epidemic enteritis;
 - Zymotic enteritis;
 - Epidemic diarrhœa. Summer diarrhœa.
 - Dysentery and dysenteric diarrhœa;
 - Choleraic diarrhœa, cholera, cholera nostras (in the absence of Asiatic Cholera).

Under the heading of "Enteritis" are included those certified as from Gastro-enteritis, Musco-enteritis, and Gastric Catarrh, unless from information obtained by inquiry from the certifying practitioner or otherwise, the Medical Officer of Health has reason for including such deaths, especially those of infants, under the specific term "Diarrhœa." Deaths from diarrhœa secondary to some other well-defined disease are included under the latter.

Under the headings of "Puerperal Fever" and "Cancer" are included all registered deaths from causes comprised within these general terms.

SUMMARY OF THE INSPECTOR OF NUISANCE'S REPORT FOR THE YEAR 1904.

1.	Accumulations of filth removed	...	...	...	101
2.	Houses in a bad state of repair reported and in most instances satisfactorily dealt with	...	...	...	2
3.	Yards to dwellings in an offensive state cleaned	...	...	...	60
4.	Privy nuisances, foul, &c., remedied	...	...	...	99
5.	Privies new, and removed, vault filled up and converted into earth closets	...	...	...	71
6.	Animals kept in an offensive state removed	...	...	...	49
7.	Overcrowding, cases of, abated	...	...	...	3
8.	Water supply deficient and impure, &c.	...	...	...	0
9.	Samples of water taken to County Analyst...	...	...	...	2
10.	Wells closed	...	...	...	0
11.	Cases of infectious and contagious diseases visited and supplied with disinfectants	...	...	...	118
12.	Schools closed	...	...	...	4
13.	Houses disinfected by Inspector	...	...	...	75
14.	Drainage nuisances ; drains repaired and new supplied	...	...	...	60
15.	Foul ditches cleaned out...	...	...	...	35
16.	New gulley to drains	...	...	...	30
17.	Street drains trapped	..	...	...	40
18.	Parish ponds cleaned out	...	...	...	3
19.	New parish pumps	...	...	...	0
20.	Parish pumps repaired	...	...	...	28
21.	New houses erected	...	...	...	24
22.	Certificates granted under sec. 6 of Public Health (Water) Act, 1878	...	...	...	24
23.	Lodging houses registered	...	...	...	0
	Slaughterhouses, visited	...	all throughout district		
	Holme's Lode, water supply	...	cleared twice		
	Black Bank sewer drains...	...	roded twice		
	New slaughter houses	...	...	...	0
	Workshops inspected	...	...	...	69
	Home workers premises inspected	...	...	...	36
	Bakehouses inspected	...	...	...	28

W. GREEN,
Inspector of Nuisances.

ELY RURAL DISTRICT COUNCIL.

WALT-HAM-SAL,

BARTON ROAD,

CAMBRIDGE,

November 19th, 1904.

Report on an outbreak of Typhoid Fever at Littleport.

I beg leave to state for the information of the Rural District Council that I had proposed reporting on the above mentioned outbreak at the end of May last, but as a few cases continued to occur I have waited the further developments of the outbreak.

I therefore beg leave to report on the incidence of Typhoid Fever in Littleport, and its neighbourhood, from January 1st, 1904, to the present time, as follows :—

In all, thirty-six cases in twenty-eight households have been notified.

In view of past epidemics of Typhoid Fever, that have assailed this district, and in order to compare the incidence of the disease in special parts of the district, I have classified the cases into three distinct groups according to locality, viz. : Banks of the Ouse, Town, and Wisbech Road and immediate neighbourhood.

An analysis of the cases shows that out of the total number, eighteen cases in fifteen households occurred along the Banks of the Ouse; eleven cases in nine households in the Town; and seven cases in three households in the Wisbech Road and neighbourhood.

With regard to the above-mentioned groups of cases, enquiry elicited that in the Banks of the Ouse group, nine cases

in six households occurred on the right bank, and nine cases in nine households on the left bank. The water supply on the right bank of the river was obtained in five instances direct from the river; and in one instance from a pump indirectly connected with the river. On the left bank of the river in four instances, the water supply was obtained from rain water tanks and river; in one instance from pump indirectly connected with the river, and river direct; and in four instances from the river directly. Two of the cases in two several households were of doubtful character, and one of the cases occurred in an old Typhoid Fever area.

With regard to the Town group of cases, four of the households were supplied by rain water tanks, two households from rain water tanks, and pumps indirectly connected with the river; one from a pump connected with a well; and one from a pump connected with an arm of the river, and river directly. Two of the cases were of doubtful character, and two occurred in an old Typhoid Fever area.

With regard to Wisbech Road group of cases, all three households obtained their supply of water directly or indirectly from Black Lake, which is a water course.

The following Table shows the monthly incidence of the disease in the three groups:—

			Banks of Ouse.	Town.	Wisbech Road.
January	...	...	1	1	—
February	...	...	—	—	—
March	...	...	—	—	—
April	...	...	5	1	—
May	...	...	9	5	3
June	...	...	1	—	1
July	...	...	1	—	—
August	...	...	1	1	1
September	...	...	—	—	2
October	...	...	—	1	—
November	...	...	—	2	—
			<hr/> 18	<hr/> 11	<hr/> 7

From the above table it will be seen that cases have occurred in the district during each month, with the exception of February and March. The first case occurred in the Town, and was with little doubt contracted outside the Town, for there had been no cases in the Town proper, since May 30th, 1903, whereas, five cases along the banks of the Ouse, and one in the Wisbech Road had occurred as recently as November 6th, and December 18th, 1903. These facts point to the conclusion that, whatever may have been the operating cause, the outbreak of this year may be assumed to have started from the river bank and clung with special tenacity to that part of the district, and its extension to the Town and Wisbech Road, followed more or less irregularly.

From the following table where the number of cases are grouped, according to age periods, it appears that four of the cases were under five years of age; twelve under ten years of age: and twenty under fifteen years of age, out of a total of thirty-six.

	Under 5.	5—10.	10—15.	15—25.	25—35.	35 and upwards.
Banks of Ouse	2	2	7	3	4	—
Town... ..	1	4	1	1	2	2
Wisbech Road	1	2	—	3	1	—
	<hr/> 4	<hr/> 8	<hr/> 8	<hr/> 7	<hr/> 7	<hr/> 2

This distribution at unusual age periods led me to think that some of the cases might be some other disease simulating Typhoid Fever, and not unknown to the medical profession; I therefore had conferences with the medical men, who had the larger number of cases, and suggested the application of Widal's test for verification of diagnosis; but the patients were unwilling to submit to it, and it must therefore be assumed that all the cases were really Typhoid Fever.

The circumstance which strikes me most forcibly is the origination of the disease along the river bank, and its chief

extension into the Town and Wisbech Road along the line of water supply from the river. In this regard it may be useful to compare the topographical distribution of the disease in previous outbreaks during the antecedent fourteen years (1890—1903).

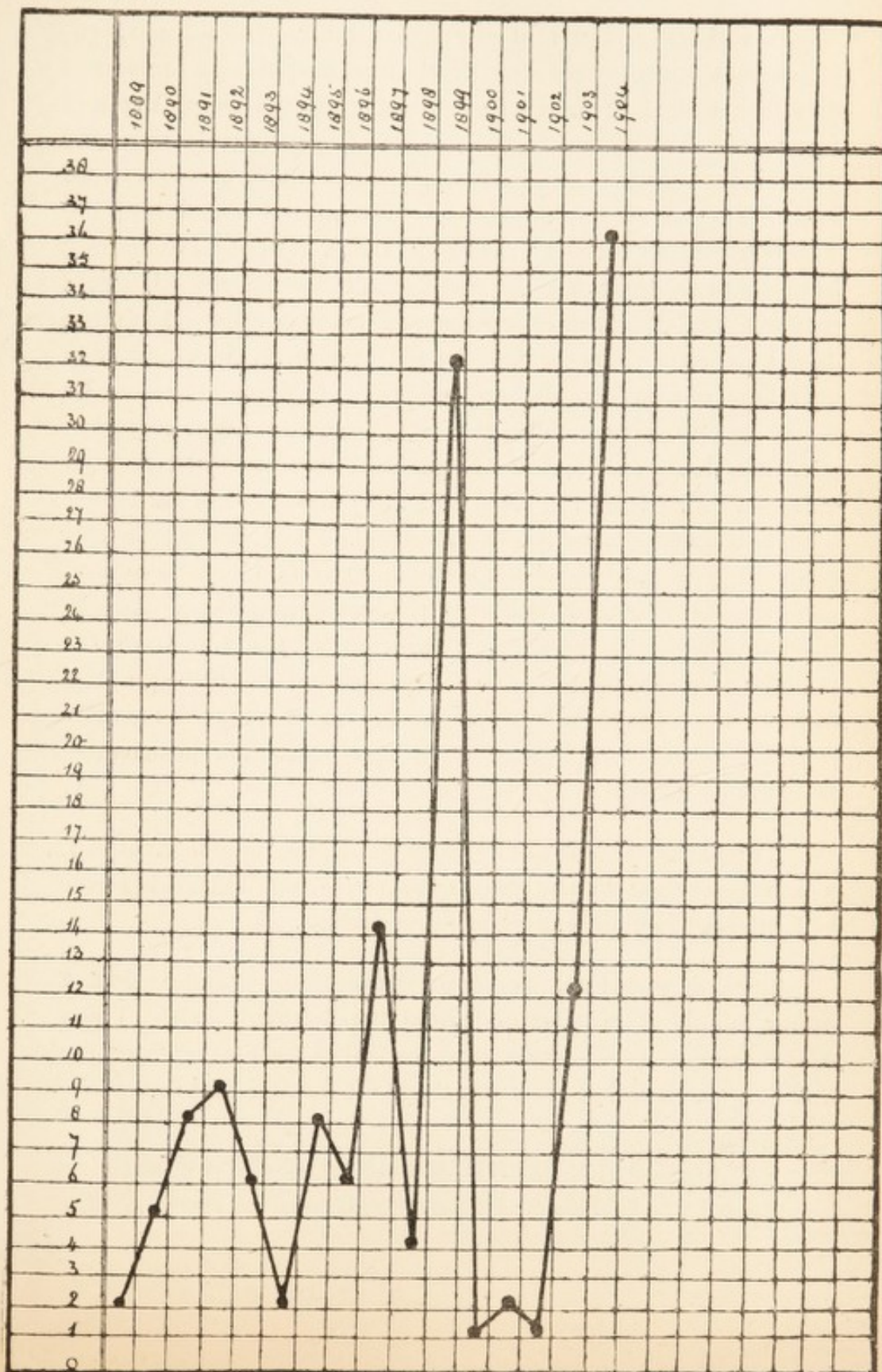
During this period one hundred and forty-two cases of Typhoid Fever have been notified in the Ely Rural District, and of this number one hundred and nine or 76 per cent. have occurred in the Littleport Sub-District.

An analysis of the cases which have occurred in the Littleport Sub-District shows that thirty-six or 33 per cent. have occurred along the banks of the Ouse; forty-eight or 44 per cent. in the Town; eight or 7 per cent. along the Wisbech Road and immediate neighbourhood; and seventeen or 16 per cent. in other parts of this Sub-District.

A further analysis of the cases shows that seventy-one or 65 per cent. obtained their water supply either directly or indirectly from the river.

If the whole of the cases notified in successive years be taken into account it would appear that the column indicative of the years of greatest intensity shows an increasing altitude, as shown by the accompanying Chart. This circumstance would appear to indicate an increasing degree of infectiveness either of soil or water, or of both.

CHART showing the number of cases notified in successive years in the Area of the Littleport Sub-District referred to in this Report.



A further analysis of the cases indicates increased infectiveness immediately after flood time, and this circumstance may be assumed to signify that the special microbe of Typhoid Fever, which is known to be capable of living for considerable periods in polluted soil, may have been washed down from infective areas to the South and East of the Town into the watercourses whence so many of the Littleport inhabitants have to draw their supply, for excreta from Typhoid Fever patients are disposed of on garden ground adjacent to the dwellings after more or less imperfect disinfection, and it is well known that complete disinfection of Typhoid Stools by liquid agents is very difficult. It is, moreover, possible that the infective material of Typhoid Fever may have been obtained direct from the polluted soil by processes of gardening operations, and consumption of uncooked vegetables; in this connection it may be well to observe that I know of several instances of recurring cases in the same household at long time intervals. I have taken samples of the soil from the infected areas for bacteriological examination, but unfortunately have been unable to isolate the specific bacillus; such negative evidence is not, however, of much value in the face of positive facts above stated.

The above circumstances force me to the same conclusion, which I reached in the year 1899, viz.: that Typhoid Fever in Littleport is mainly a waterborne disease.

I have, therefore, to again express my opinion that a public supply of pure water should be obtained for the Town proper, and a water-cart service instituted for cottages outside the Town area at too great distances for a water main.

BUSHELL ANNINGSOON,

Medical Officer of Health.